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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,805	09/11/2003	Zakar Raffi Hachikian	ITW 0006 IA/41038.9/14350	5226
51635	7590	11/28/2006	EXAMINER	
DINSMORE & SHOHL LLP ONE DAYTON CENTRE, ONE SOUTH MAIN STREET SUITE 1300 DAYTON, OH 45402-2023			FEELY, MICHAEL J	
			ART UNIT	PAPER NUMBER
			1712	

DATE MAILED: 11/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/659,805

Applicant(s)

HACHIKIAN, ZAKAR RAFFI

Examiner

Michael J. Feely

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-54 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Pending Claims

Claims 1-54 are pending.

Previous Claim Rejections - 35 USC § 102/103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. The rejection of claims 1, 2, 9, 24-26, 34, 49, 50, 53, and 54 under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kye (Pub. No.: US 2004/0197563) has been overcome by amendment.

Previous Claim Rejections - 35 USC § 103

3. The rejection of claims 1, 2, 9, 20, 22, 24-26, 34, 49, 50, 53, and 54 under 35 U.S.C. 103(a) as being unpatentable over Gordon (US Pat. No. 6,645,341), *for the reasons set forth in the previous Office action*, has been withdrawn.
4. The rejection of claims 20 and 22 under 35 U.S.C. 103(a) as being unpatentable over Kye (Pub. No.: US 2004/0197563) has been overcome by amendment.

New Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
6. Claims 1-54 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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The instant claims feature a component referred to as a “plasticizer/accelerator”. It is unclear if this refers to: (a) a plasticizer *or* an accelerator, (b) a plasticizer *and* an accelerator, or (c) a material that *acts as both* a plasticizer and an accelerator. *For the purpose of claim interpretation, this term will be defined by any of these possible meanings.*

New Claim Rejections - 35 USC § 102/103

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claims 1, 2, 4, 9, 12, 20, 22, 24-26, 28, 34, 37, 49, 50, 53, and 54, rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Gordon (US Pat. No. 6,645,341).

Regarding claims 1, 4, 9, 12, 24, 26, 28, 34, 37, 49, 50, 53, and 54, Gordon discloses: *(1)* a two-part epoxy adhesive (Abstract) comprising:

(a) a resin component comprising a mixture of epoxy resin (column 2, line 40 through column 3, line 13), a “plasticizer/accelerator” (column 3, line 14 through column 4, line 31), and an internally flexibilized epoxy resin (column 2, lines 40-43 and 59-64); and

(b) a hardener component comprising a mixture of flexibilizer and an unmodified or modified aliphatic amine, an unmodified or modified polyamide, or combinations thereof (column 4, lines 45-67);

(4 & 28) wherein said hardener component wherein said hardener component further includes “plasticizer/accelerator” (column 5, lines 1-5), an accelerator (column 5, lines 1-5: *phenolic accelerator satisfies both limitations*), and a thixotropic agent (column 5, lines 11-12);

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(9 & 34) wherein said resin component is free of nonylphenol and said hardener component is free of nonylphenol (*reference is silent regarding the presence of nonylphenol*); (12 & 37) wherein said hardener component further includes a “plasticizer/accelerator” free of nonylphenol (column 5, lines 1-5), an accelerator (column 5, lines 1-5: *phenolic accelerator satisfies both limitations*), and a thixotropic agent (column 5, lines 11-12);

(49 & 53) wherein the flexibilizer is selected from butadiene acrylonitrile flexibilizers (column 4, lines 62-67); (50 & 54) wherein the flexibilizer is selected from amine terminated butadiene acrylonitrile flexibilizers (column 4, lines 62-67);

(24) a process of adhering at least two substrate surfaces to each other (Abstract; column 5, lines 33-57) comprising intercalating between said surfaces an adhesive comprising a reactive mixture of (a) and (b) (Abstract; column 5, lines 33-57); (26) wherein said act of intercalating includes dispensing said resin component and hardener component in equal parts by volume and mixing until the mixture is relatively homogeneous and is applied relatively evenly to the substrates (column 5, lines 33-57).

Gordon fails to explicitly disclose: (1 & 24) wherein said cured adhesive has a tensile elongation at room temperature of greater than 30%. However, it appears that this would have been an inherent property because Gordon satisfies all of the material limitations set forth in the instant claims. It has been found that, “Products of identical chemical composition can not have mutually exclusive properties.” A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present – *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

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Therefore, the adhesive of Gordon would have inherently satisfied the instantly claimed property limitation of having a tensile elongation at room temperature of greater than 30% because it satisfies all of the chemical/material limitations of the instant claims.

Regarding claims 2, 20, 22, and 25, Gordon fails to explicitly disclose an initial curing time of (2 & 25) less than 3 hours and (20 & 22) about 1.5-2 hours. However, the adhesive of Gordon appears to be inherently capable of satisfying these property limitations, given the proper curing conditions, because it satisfies all the chemical/material limitations of the instant invention.

Therefore, the adhesive of Gordon would have been inherently capable of having an initial cure time of less than 3 hours or from 1.5-2 hours, given the proper curing conditions, because it satisfies all the chemical/material limitations of the instant invention.

Furthermore, the adhesive of Gordon would have inherently satisfied the instantly claimed property limitation of having a tensile elongation at room temperature of greater than 120% because it satisfies all of the chemical/material limitations of the instant claims.

New Claim Rejections - 35 USC § 103

9. Claims 3, 10, 27, 35, 44, and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gordon (US Pat. No. 6,645,341).

Regarding claims 3, 10, 27, and 35, Gordon discloses: (3 & 27) wherein said resin-component further includes fillers (column 4, lines 32-44) and a thixotropic agent (column 4, lines 32-44: *fumed silica satisfies both limitations*); and (10 & 35) wherein said resin component further includes a “plasticizer/accelerator” free of nonylphenol (column 3, line 14-31), fillers (column 4, lines 32-44), and a thixotropic agent (column 4, lines 32-44: *fumed silica satisfies*

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both limitations). They disclose the use of a coupling agent in the hardener component (*see column 5, line 9*); however, they fail to explicitly disclose the use of this coupling agent in the resin component.

One skilled in the art would have recognized that the concept behind “two-part” thermosetting compositions (as opposed to “one-part” thermosetting compositions) is to keep the ingredients involved in the curing (cross-linking) reaction separate until just before or at the time of application. This is done to prevent premature hardening during storage. One skilled in the art would have also recognized that these compositions commonly contain numerous materials that do not directly take part in the curing (cross-linking) reaction. In the end, all of these materials are co-mingled together. The decision to include these materials in the “resin” or the “hardener” is merely a matter of tailoring the process-ability of each part, prior to and during application, of the composition. In light of this, Gordon’s use of a coupling agent in the “hardener” would itself suggest that the presence of the coupling agent would be interchangeably suitable in the “resin” because it is not directly involved with the curing reaction.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a coupling agent in the resin component of Gordon because Gordon teaches the use of this material in his hardener component. Gordon’s use of a coupling agent in the “hardener” suggests that the presence of the coupling agent would be interchangeably suitable in the “resin” because it is not directly involved with the curing reaction, and the decision to include these materials in the “resin” or the “hardener” is merely a matter of tailoring the process-ability of each part, prior to and during application, of the composition.

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Regarding claims 44 and 45, the teachings of Gordon are as set forth above and incorporated herein to satisfy the limitations of claims 44 and 45.

10. Claims 47, 48, 51, and 52 rejected under 35 U.S.C. 103(a) as being unpatentable over Gordon (US Pat. No. 6,645,341) in view of Cunliffe et al. (US Pat. No. 4,107,142).

Regarding claims 47, 48, 51, and 52, Gordon discloses the use of epoxy functional butadiene copolymers; however, the fail to explicitly disclose the use of (47 & 51) wherein the internally flexibilized epoxy resin is selected from internally flexibilized bisphenol A type epoxy resins and internally flexibilized bisphenol F type epoxy resins; and (48 & 52) wherein the internally flexibilized is a butylated bisphenol A epoxy resin.

Cunliffe et al. disclose epoxide materials suitable for use in flexible adhesives that are prepared by reacting a diene, such as butadiene or isoprene, with a diepoxide, such as DGBA (bisphenol A epoxy). They further disclose, "These products may be cured with conventional epoxide curing agents to give an internally flexibilized adhesive having useful combinations of tensile and shear strengths," (Abstract).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a butylated bisphenol A epoxy resin, as taught by Cunliffe et al., in the epoxy blend of Gordon because Cunliffe et al. disclose that these materials are suitable for use in flexible adhesives and are cured with conventional epoxide curing agents to give an internally flexibilized adhesive having useful combinations of tensile and shear strengths.

11. Claims 5, 14, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gordon (US Pat. No. 6,645,341) in view of Hermansen et al. (US Pat. No. 6,723,803).

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Regarding claims 5, 14, and 29, the teachings of Gordon are as set forth above and incorporated herein. These teachings are deficient in that they fail to explicitly disclose: an amount of internally flexibilized epoxy resin, an amount of coupling agent, and a filler other than the thixotropic agent (*claimed ranges of filler and thixotropic agent distinguish these materials*).

With respect to the internally flexibilized epoxy resin, Gordon contemplates a blend of epoxy materials, including an internally flexibilized epoxy resin, wherein the total amount of epoxy resin is about 50 to about 90 weight percent of the resin component (*see column 3, lines 9-13*). In the case of a blend, one would expect the amount of internally flexibilized epoxy resin to overlap the claimed range of 5-40%. Furthermore, one skilled in the art would have recognized that this amount is a result effective variable, wherein a minimum amount is required to impart flexible properties, and a maximum amount is contemplated to ensure proper adhesion properties.

With respect to the coupling agent, one skilled in the art would have recognized that this amount is a result effective variable, wherein a minimum amount is required to enhance dispersion of particulates in the resin, and a maximum amount is contemplated to ensure cost-effectiveness of the composition.

In light of this, it has been found that, “[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.” – *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955); and, “A particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or

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workable ranges of said variable might be characterized as routine experimentation,” – *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the internally flexibilized epoxy resin and the coupling agent in the instantly claimed amounts because the quantities of these materials are result effect variables: (a) wherein a minimum amount of internally flexibilized epoxy resin is required to impart flexible properties, and a maximum amount is contemplated to ensure proper adhesion properties; and (b) wherein a minimum amount of coupling agent is required to enhance dispersion of particulates in the resin, and a maximum amount is contemplated to ensure cost-effectiveness of the composition.

With respect to the additional filler material, Hermansen et al. disclose a similar flexible epoxy-based adhesive composition (*see Abstract*). They disclose other optional additives for their adhesive, including fillers. These fillers preferably do not exceed 50% of the composition volume (*see column 23-31*). The teachings of Hermansen et al. demonstrate that additional fillers (and their amounts) are recognized in that art as suitable additives for flexible epoxy-based adhesive compositions. In light of this, it has been found that the selection of a known material based on its suitability for its intended use supports a *prima facie* obviousness determination – *see MPEP 2144.07*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to add 11-45% filler (other than the thixotropic agent), as taught by Hermansen et al., to the composition of Gordon because the teachings of Hermansen et al. demonstrate that additional fillers (and their amounts) are recognized in that art as suitable additives for flexible epoxy-based adhesive compositions.

Allowable Subject Matter

12. The indicated allowability of claims 3-5, 10, 12, 14, 27-29, 35, 37, 44, 45, 47, 48, 51, and 52 is withdrawn after further consideration of Gordon (US Pat. No. 6,645,341).

13. Claims 6-8, 11, 13, 15-19, 21, 23, 30-33, 36, 38-43, and 46 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

14. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 6, 16, and 30, the combined teachings of the prior art fail to teach or suggest the use of a filler comprising a mixture of limestone filler and white pigment.

Regarding claims 7, 8, 17-19, 31, 32, 41, and 42, the combined teachings of the prior art fail to teach or suggest the hardener component set forth in claims 7, 17, 31, and 41. Claims 8, 18, 19, 32, and 42 are allowable because they are dependent from claims 7, 17, 31, and 41.

Regarding claims 11, 13, 15, 36, 38, 39, 40, and 46, the combined teachings of the prior art fail to teach or suggest the use of dinonylphenol as the "plasticizer/accelerator".

Regarding claims 21, 23, 33, and 43, the combined teachings of the prior art fail to teach or suggest: the use of a filler comprising a mixture of limestone filler and white pigment; and the hardener set forth in these claims.

Response to Arguments

15. Applicant's arguments with respect to claims 1-54 have been considered but are moot in view of the new ground(s) of rejection.

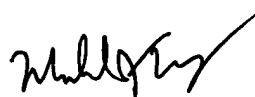
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Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Feely whose telephone number is 571-272-1086. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Michael J. Feely
Primary Examiner
Art Unit 1712

November 22, 2006

MICHAEL J. FEELY
PRIMARY EXAMINER